

A NEW PANAMANIAN *STERCULIA* WITH TAXONOMIC NOTES ON THE GENUS¹

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ABSTRACT

Sterculia glauca A. Gentry is newly described from Panama. It is most closely related to *S. guianensis* Sandw. All recognized species of tropical American *Sterculia* are arranged into species-groups on the basis of vegetative characteristics.

Sterculia glauca A. Gentry, sp. nov.

Species ab *S. guianensi* Sandw. foliis parvis ellipticis vel obovatis minus acuminatis, inflorescentiis subracemosis, gynophoris glabratis, differt.

Tree 15–25 m tall and 15–40 cm d.b.h. Leaves small, clustered toward tips of brachlets, elliptic to obovate, short-acuminate, rounded to cuneate at the base, 4–14 cm long, 2–6.5 cm wide, of varying sizes on each twig, entire, subcoriaceous, glabrous, drying brownish gray above, pale gray and almost glaucous below, the midvein prominent above and below, the secondary veins plane or slightly impressed above, prominent below, the tertiary venation slightly prominulous below; petiole 0.3–5.5 cm long, flattened above, glabrous. *Inflorescence* a raceme or racemose panicle, mostly clustered at the apex of branchlets, when not strictly racemose with only a few short 2-flowered lower primary branches, the pedicels and rachis pubescent with branched trichomes, the pedicels 3–4 mm long, the bracts and bracteoles subulate, minute, caducous. *Flowers* 7–10 mm long, the calyx 5-lobed, stellate pubescent outside and inside on apical 2–3 mm above a densely pubescent transverse appendage, also with scattered longer sparingly forked trichomes throughout; gynophore curved, the tip pendent, glabrous except for minute glandular trichomes at thickened base; male flowers with staminal tube pendulous, short and patelliform, glabrous, the anthers ca. 0.5 mm long; perfect flowers with ovary villous, the stigma peltate, the style pubescent and ca. 2 mm long. *Fruit* with the peduncle 13–15 cm long, the 5 apical follicles pedicellate, ellipsoid, not apiculate, 11–14 cm long, 7–8 cm in diameter, the pericarp woody, finely puberulous, ca. 1 cm thick, villous with urticating trichomes inside; seeds ellipsoid, ca. 3 cm long, ca. 1.3 cm in diameter.

TYPE: PANAMA. PANAMA: El Llano-Cartí Road, 8.6 km from Interamerican Highway, 1100–1200 ft, wet forest, tree 15 m tall, 40 cm d.b.h., tepals yellow green outside, rose red inside, 27 Dec. 1974, *Mori, Kallunki & Hansen 4093* (MO, holotype; isotypes to be distributed).

Additional collections examined: PANAMA. PANAMA: (El Llano-Cartí road near San Blas Border): 5–6 mi N of El Llano, 1300 ft., *Gentry 5822* (MO, to be distributed). 8–12 km N of El Llano, 400–450 m, *Nee et al. 8806* (MO, PMA). 10–12 km N of Interamerican Highway, 410 m, *Mori & Kallunki 2884* (MO, to be distributed). COLÓN: East Santa Rita Ridge, *Correa & Dressler 665* (MO).

¹ I thank Ghilleen Prance and A. J. G. H. Kostermans for reviewing the manuscript.

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Sterculia is in great need of monographic treatment and hence a difficult group to work with. Nevertheless the new Panamanian species is so distinct from all described species of the genus as to leave no doubt that it is indeed undescribed. It is very unusual in the genus in its completely glabrous leaves and whitish almost glaucous leaf undersurfaces.

Clearly *Sterculia* contains fewer species in tropical America than extant names, although no effort has been made to establish synonymies. Most species fall into relatively few species-groups on the basis of vegetative characteristics. Although I have made no effort to consult types, the affinities of most species are clear from their descriptions. The following groups may be recognized:³

1. *Sterculia mexicana* R. Br. and *S. laxiflora* Rusby—palmately compound leaves.

2. *Sterculia apetala* (Jacq.) Karst. (including *S. acerifolia* Hemsl., *S. carthaginensis* Cav. and *S. punctata* Moc. & Sessé ex DC.), *S. elata* Ducke, *S. striata* St.-Hil. & Naud., *S. chicha* St.-Hil., and *S. guaypayensis* Cuatr.—lobed leaves.

3. *Sterculia rugosa* R. Br., *S. costaricana* Pittier (including *S. recordiana* Standl.), *S. colombianum* Sprague, *S. pojaira* Cuatr., *S. stipulifera* Ducke, *S. pilosa* Ducke, *S. apeibophylla* Ducke, *S. rigidifolia* Ducke, *S. speciosa* K. Schum., *S. solitudinis* Mildbr., and *S. corrugata* Little—entire coriaceous leaves with prominent tertiary venation beneath; always with some stellate trichomes and usually strongly stellate pubescent beneath.

4. *Sterculia excelsa* Mart. (including *S. surinamensis* R. Br. and *S. villifera* Steud.)—similar to *S. rugosa* group but with leaves firmly membranous to chartaceous and venation less prominent beneath, conspicuously stellate pubescent; *S. guaypayensis* (see above) also said to be similar except for its somewhat lobed leaves.

5. *Sterculia pruriens* (Aubl.) K. Schum. (including *S. crinita* Cav., *S. ivira* Swartz and *S. propinqua* R. Br.), *S. tessmannii* Mildbr., *S. caribaea* R. Br., and *S. albidiflora* Ducke—leaves entire, chartaceous to subcoriaceous, distinctly but not conspicuously stellate puberulous beneath and along petioles, tertiary venation prominulous beneath.

6. *Sterculia frondosa* L. Rich., *S. glabrifolia* Mildbr., *S. roseiflora* Ducke, *S. venezuelensis* Pittier—leaves entire, chartaceous to subcoriaceous, glabrate, the

³ *Xylosterculia* Kostermans was recently (1973) proposed for *S. pilosa* and *S. rugosa*, based on a woodier "indehiscent" fruit lined with urticating hairs inside. This distinction seems unwarranted: all *Sterculia* fruits known to me are woody, dehiscent, and lined with stinging hairs (cf. Janzen, 1972). The two *Xylosterculia* species are very close to the other species of the *S. rugosa* group, several of which are known to be dehiscent; the fruit illustrated by Kostermans was obviously very immature when collected, and this is presumably responsible for its apparent indehiscence. Even were some *Sterculia* fruits indehiscent, the difference seems taxonomically unimportant in the genus: Janzen (1972) has noted that the only effective seed dispersal in dehiscent-fruited *S. apetala* occurs when undehiscent fruits are removed from the tree. Dehiscence on the parent tree results in increased seed predation. In such a situation selection for delayed dehiscence or indehiscence would hardly represent the kind of fundamental change usually associated with generic differentiation. Pericarp thickness of the difference species ranges uninterruptedly from a few mm to the 2 cm cited by Kostermans. I accept Kostermans's transfer of *S. cubensis* to *Hildegardia*. *Sterculia oblongifolia* Moc. & Sessé ex DC. is a synonym of *Colea acuminata*. All other New World *Sterculias* have been accounted for here.

tertiary venation beneath prominulous or scarcely evident. *Sterculia albidiflora* (see *S. pruriens* group above) was described as of this alliance, but specimens I have seen have a sparse tomentum of stellate trichomes beneath. The species of this group are all characterized by small (calyx 5–6 mm long) flowers and may prove to constitute a single species. Although *S. glabrifolia* Mildbr. (1927) is a later homonym of *S. glabrifolia* Merrill (1920), I refrain from proposing a *nomen novum* in expectation that it may prove synonymous with *S. frondosa*.

7. Miscellaneous—*Sterculia megalocarpa* A. C. Smith seems intermediate between the *S. rugosa* group and the *S. pruriens* group. *Sterculia pendula*, likewise stellate pubescent below, may also be related to the *S. pruriens* group. No material of these two species has been seen. The final three species of the genus—*S. aerisperma* Cuatr., *S. diguense* Cuatr., and *S. guianensis* Sandw.—are closest to *S. glauca*, agreeing in glabrate leaves and relatively large flowers (calyx ca. 1 cm long). *Sterculia aerisperma* differs in smaller, laterally compressed and pointed follicles and the leaves are not at all glaucescent beneath. *Sterculia diguense* (flowers not known) has a fruit very similar to that of *S. glauca* but very different much larger leaves which are minutely tomentellous below; it is probably allied to the *S. rugosa* group. The final species, *Sterculia guianensis* of Guyana, is perhaps the closest relative of *S. glauca*. It agrees in glabrate acuminate leaves rounded to almost cuneate at the base and with inconspicuous tertiary venation below, as well as subracemose inflorescence and similar flower size (flower 1.2–1.6 cm long, calyx lobes 7–11 mm long). Its leaves are described as pale and almost glaucescent beneath, the only species sharing this feature with the Panamanian plant.

Should *S. glauca* be separated from *S. guianensis*? That species differs noticeably in the lanceolate shape of its much longer leaves (11–33.5 cm long, 3.5–9.5 cm wide), longer (1–1.5 cm) leaf acumen, and its pedicels are longer (7–5 mm versus 3–5 mm). The gynophore is furfuraceous rather than glabrous. The flowers of *S. guianensis* are also slightly larger and the bracts to 7 mm long. *Sterculia glauca* is adequately separated but joins the growing list of eastern Panamanian species with their closest relatives in Guayana (cf. Gentry, 1975).

LITERATURE CITED

- GENTRY, A. H. 1975. Additional Panamanian Myristicaceae. *Ann. Missouri Bot. Gard.* 62: 474–479.
- JANZEN, D. H. 1972. Escape in space by *Sterculia apetala* seeds from the bug *Dysdercus fasciatus* in a Costa Rican deciduous forest. *Ecology* 53: 350–361.
- KOSTERMANS, A. J. G. H. 1973. Some new taxa. *Bot. Tidsskr.* 67: 317–319.